

Remarks

The restriction/election requirement is believed to be overcome by the cancellation of the old claims and rewriting the new claims so that there are no distinct inventions.

In Claims

Amend the claims as follows:

Cancel claims: 1-15

Add new claims:

16. (new) A multifunction semiconductor storage device capable of hot plug and play and being removable connected to the host system through a general purpose interface, comprising:

a semiconductor storage media module, wherein said semiconductor storage media module stores the boot up program of the operating system and operating system programs to be automatically loaded from said semiconductor storage media module to a host computer and boot the host computer after said multifunction semiconductor storage device being removable connected to said host computer; and

a controller module, wherein said controller module comprises a general purpose interface control module, and a microprocessor and control module, wherein said general purpose interface control module interprets and transmits a general purpose interface protocol, and wherein said microprocessor and control

module initializes said general purpose interface control module and determines a device class protocol of a storage disk.

17. (new) A multifunction semiconductor storage device as claimed in claim 16, wherein said semiconductor storage device can be recognized, controlled and accessed by the BIOS (Basic Input and Output System) of said host computer, while the BIOS of the host computer is powered up, the boot up program of the operating system and operating system programs are loaded from the semiconductor storage media module so as to boot said host computer.

18. (new) A multifunction semiconductor storage device as claimed in claim 16, wherein the driver programs of the semiconductor storage device can be stored in the semiconductor storage media module so as to realize the function of storing the driver programs.

19. (new) A multifunction semiconductor storage device as claimed in claim 16, wherein said semiconductor storage media module comprises a special information area for storing the information relevant to said semiconductor storage device, the password and the digital signature of a user.

20. (new) A multifunction semiconductor storage device as claimed in claim 16, wherein said multifunction semiconductor storage device connecting with said host computer through said general-purpose interface control module, controlling and reading/writing the multifunction semiconductor storage device based on BIOS after powered up said host computer.

21. (new) A multifunction semiconductor storage device as claimed in claim 16, wherein said general purpose interface protocol can be any protocol of USB

interface, IEEE1394 interface, Bluetooth interface, IrDa infrared interface, HomeRE interface, IEEE802.112a interface, or IEEE802.11b interface.

22. (new) A multifunction semiconductor storage device as claimed in claim 16, wherein said multifunction semiconductor device further includes a write protect switch capable of offering physical protection to said semiconductor storage media module so as to prevent the contents from being overwritten or erased, said write protect switch is electrically connected to said microprocessor and control module.

23. (new) A multifunction semiconductor storage device as claimed in claim 16, wherein said multifunction semiconductor device further includes a LED indicator comprising one or a plurality of indicator devices which can show the working status of the semiconductor storage device, said LED power indicator (5) is electrically connected to said microprocessor and control module.

24. (new) A multifunction semiconductor storage device as claimed in claim 16, wherein said storage disk can be a simulated and implemented store function of floppy disk drive and floppy diskette, a simulated and implemented store function of CD-ROM drive and a CD-ROM, a simulated and implemented store function of hard disk, a simulate and implemented store function of ZIP disk, a simulated and implemented store function of MO disk, or a customized storage disk.

25. (new) A multifunction semiconductor storage device as claimed in claim 16, wherein said multifunction semiconductor device further includes a storage disk selection switch for selecting at least one storage disk from all storage disks,

so that the selected storage disk can be recognized, controlled and accessed by said host computer.

26. (new) A multifunction semiconductor storage device as claimed in claim 16, wherein said storage disk supports said device class protocol that is any one of UFI (USB Floppy Interface) protocol, SFF8020I protocol, SFF8070I protocol, SCSI Transparent Command Set protocol, Reduced Block Commands (RBC) T10 Project124o-D protocol, ZIP disk protocol or MO disk protocol.

27. (new) A method of using a multifunction semiconductor storage device capable of hot plug and play and being removable connected to the host system through a general purpose interface, comprising:

a step of storing a boot up program of the operating system and operating system programs in a semiconductor storage media module, wherein said boot up program to be automatically loaded from said semiconductor storage media module to a host computer and boot the host computer after said multifunction semiconductor storage device being removable connected to said host computer;

a step of interpreting and transmitting a general purpose interface protocol by a general purpose interface control module; and

a step of initializing a general purpose interface control module and determining a device class protocol of a storage disk by a microprocessor and control module, wherein a controller module comprises said general purpose interface control module, said microprocessor and control module, and a buffer module.

28. (new) A method of using a multifunction semiconductor storage device as claimed in claim 27, wherein further includes a step of recognizing, controlling and accessing said semiconductor storage device by the BIOS (Basic Input and Output System) of said host computer, while the BIOS of the host computer is powered up, the boot up program of the operating system and operating system programs are loaded from said semiconductor storage media module so as to boot said host computer.

29. (new) A method of using a multifunction semiconductor storage device as claimed in claim 27, wherein further includes a step of storing a special information area for the information relevant to said semiconductor storage device, the password and the digital signature of a user.

30. (new) A method of using a multifunction semiconductor storage device as claimed in claim 27, wherein further includes a step of recognizing said general purpose interface protocol to be any protocol of USB interface, IEEE1394 interface, Bluetooth interface, IrDa infrared interface, HomeRE interface, IEEE802.112a interface, or IEEE802.11b interface.


31. (new) A method of using a multifunction semiconductor storage device as claimed in claim 27, wherein further includes a step of recognizing said device class protocol to be anyone of UFI (USB Floppy Interface) protocol, SFF8020I protocol, SFF8070I protocol, SCSI Transparent Command Set protocol, Reduced Block Commands (RBC) T10 Project124o-D protocol, ZIP disk protocol, MO disk protocol or a customized device class protocol.

32. (new) A method of using a multifunction semiconductor storage device as claimed in claim 27, wherein the function of said microprocessor and control module further includes a step of initializing said semiconductor storage media module and detecting the capacity, the manufacture, and quantity of the storage chip in said semiconductor storage media module.

33. (new) A method of using a multifunction semiconductor storage device as claimed in claim 27, wherein the function of said microprocessor and control module further includes a step of receiving control commands based on said general purpose interface protocol, interpreting and executing the control commands, and returning the execution results to said host computer.

34. (new) A method of using a multifunction semiconductor storage device as claimed in claim 27, wherein the function of said microprocessor and control module further includes a step of receiving said device class protocol of a simulated device disk, interpreting and executing related commands such as reading and writing data or device information, and returning the results of executions to said host computer.

35. (new) A computer storage medium storing a program for controlling a multifunction semiconductor storage device to perform a method as claimed in claim 27.


Qun Liu
Attorney/Agent for Applicant(s)
Reg. No.: 55392

Dated: April 11, 2005
9768 Early Spring Way
Columbia, MD 21046
Tel.: (301) 617-0826